

Crystal Ball: Identifying organic substances

All of the following questions have not (as yet!) appeared in the NCEA Level 2 Exams

1) Describe tests to distinguish between the following colourless solutions using only water and litmus paper.

1-aminoethane
hexanoic acid
hexan-2-ol
cyclohexane

2) Describe and write equations for distinguishing between the following colourless solutions using aqueous Na_2CO_3 only

aminoethane
butanoic acid
heptan-1-ol

3) Three colourless organic solutions that have no labels on their bottles are known to be:

- propanoic acid
- ethanol
- but-2-ene.

Discuss how each of these samples can be identified using **both acidified** potassium permanganate and acidified potassium dichromate.

In your answer, you must include

- the reagent used
- observations
- name of the products
- chemical equations that show the species reacting and products formed.